



# U.S. Department of Agriculture

## Pesticide Data Program--Progress Report

January 2006

**The Pesticide Data Program.** The Pesticide Data Program (PDP) was initiated in 1991 as part of a USDA-wide food safety initiative. Since that time, PDP has tested a wide range of commodities in the U.S. food supply, and Congress "...recognizes the importance of the Pesticide Data Program (PDP) to collect reliable, scientific-based pesticide residue data that benefits consumers, food processors, crop protection, pesticide producers, and farmers." Using the most current laboratory methods, PDP has tested both fresh and processed fruit and vegetables, grains and grain products, milk and dairy products, beef, pork, poultry, drinking water, and bottled water (initiated in 2005) for pesticide residues.

**Program Operations.** The USDA Agricultural Marketing Service (AMS) coordinates PDP, manages sample collection and testing, and publishes annual reports. AMS meets regularly with the U.S. Environmental Protection Agency (EPA) and other stakeholders, including industry and grower groups, to establish program priorities and direction. Participating States have a prominent role in program planning activities and policy establishment, particularly requirements relating to quality assurance (QA). The USDA National Agricultural Statistics Service (NASS) provides sampling support to PDP. NASS also provides statistically reliable data on chemical usage at the State level and collects economic data that link chemical usage with economic characteristics.

**Focus on Children's Foods.** In response to the 1996 Food Quality Protection Act and a 1993 report by the National Academy of Sciences, PDP focuses primarily on foods consumed by infants and children and provides critical, realistic pesticide residue data for EPA to use in assessing dietary exposure to pesticides. PDP data are used by the U.S. Food and Drug Administration (FDA), USDA's Economic Research Service (ERS) and Foreign Agricultural Service (FAS), participating States, academic institutions, chemical manufacturers, environmental interest groups, food safety organizations, and groups within the private sector representing food producers. PDP data are used by the Government and agricultural community to examine pesticide residue issues that may affect good agricultural practices relating to integrated pest management objectives and U.S. trade, particularly in the competitive global market. Additionally, PDP provides support for USDA's participation in the Codex Alimentarius Commission.

**Sampling.** PDP samples are collected from the national food distribution system employing statistically reliable schemes designed for each commodity so that the data represent exposure to pesticide residues in the U.S. diet. Fruit and vegetables are collected at over 700 sites. Sampling of grains, meat, poultry, and some processed fruit and vegetables requires fewer sites to produce reliable statistics. A commodity included in PDP is usually tested for 2 contiguous years and after a period outside the program is reintroduced so that PDP data reflect current pest management practices.

**Testing - A Federal/State Partnership.** State departments of agriculture work with USDA to collect and test samples. California, Colorado, Florida, Maryland, Michigan, Minnesota, Montana, New York, Ohio, Texas, Washington, and Wisconsin are part of the PDP effort. Two USDA laboratories also contribute to PDP testing—the AMS National Science Laboratory in Gastonia, North Carolina, and the Grain Inspection, Packers and Stockyards Administration Laboratory in Kansas City, Missouri. PDP laboratory methods are continually reevaluated and improved as necessary so that residues can be detected at extremely low concentrations.

**PDP in 2004.** In 2004, PDP tested 13,208 samples—10,366 samples of fruit and vegetables, 616 soybean, 725 wheat flour, 739 milk, and 762 drinking water samples. This included the testing of 14 fresh fruit and vegetables (apples, cantaloupe, cauliflower, cucumbers, grapes, green beans, lettuce, oranges, pears, strawberries, sweet bell peppers, sweet potatoes, tomatoes, and winter squash), 4 processed commodities (green beans, orange juice, peaches, and spinach), wheat flour, milk, and drinking water.

Excluding soybeans and drinking water, 84.4 percent of all samples were domestic, 14.4 percent were imported, 1.1 percent were of unknown origin, and 0.1 percent were of mixed national origin.

Overall, 76 percent of fresh fruit and vegetables and 40 percent of processed fruit and vegetables showed detectable residues. Residues were detected in 42 percent of soybean samples, 57 percent of wheat flour samples, and 100 percent of milk samples. Residue findings in milk were primarily low-level residues of diphenylamine and the environmental contaminants DDE p,p' and dieldrin. These findings

are largely attributable to the recent improvements in analytical technologies and associated detection limits.

Generally, 29.5 percent of all samples tested contained no detectable pesticides [parent compound and metabolite(s) combined], 30 percent contained one pesticide, and slightly over 40 percent contained more than one pesticide. Fewer pesticides were found in processed products and grain than in fresh commodities. Low levels of environmental contaminants were detected in milk, lettuce, and spinach usually at concentrations well below levels that trigger regulatory actions.

PDP testing found residues exceeding an established tolerance in 0.2 percent of the 12,446 samples (excluding drinking water). A tolerance is the maximum amount of a pesticide residue allowable on a raw agricultural commodity. Established tolerances are listed in the Code of Federal Regulations, Title 40, Part 180. Residues with no established tolerance were found in 5.2 percent of all samples (excluding drinking water). These residues were detected at very low concentrations and may be the result of spray drift, crop rotations, or the use of sanitizers in food handling establishments. PDP communicates these findings to FDA when they are reported by testing laboratories.

In finished drinking water, PDP detected low levels (measured in parts per trillion) of some pesticides, primarily widely used herbicides. Fifty-one different residues were detected in the untreated intake water and 38 different residues were detected in the finished water. The majority of pesticides included in the PDP testing profiles were not detected. None of the detections in the finished water samples exceeded established EPA Maximum Contaminant Levels or Health Advisory values, and there were no detections for any of the pesticides with established Freshwater Aquatic Organism criteria.

**PDP in 2005.** In 2005, PDP initiated testing of bottled water, eggplant, grapefruit, plums, watermelon, heavy cream, pork, and wheat and continued testing fresh commodities that were part of the 2004 program—apples, cantaloupe, cauliflower, grapes, green beans, lettuce, milk, oranges and orange juice,

pears, strawberries, and winter squash. Soybean testing was extended through December 2005 to capture potential soybean rust compound uses. Frozen green beans replaced fresh green beans in April 2005. The drinking water survey continued with paired raw and finished samples collected in California, Florida, Louisiana, Michigan, North Carolina, North Dakota, Pennsylvania, Ohio, and Washington State.

**PDP in 2006.** In 2006, PDP will initiate testing of applesauce, bananas, carrots, frozen peas, frozen potatoes, spinach, peanut butter, and poultry meat (breast and thigh tissues) and will continue to test fresh commodities that were part of the 2005 program—cauliflower, eggplant, grapefruit, orange juice, plums, watermelon, winter squash, and bottled water. Wheat testing will continue through September 2006. Soybean testing for triazoles will begin in October 2006. The drinking water survey will continue with paired raw and finished samples collected at sites determined in consultation with EPA.

#### **USDA Contacts.**

USDA-AMS-Monitoring Programs Office  
8609 Sudley Road, Suite 206  
Manassas, Virginia 20110  
(703) 330-2300, (703) 369-0678 (facsimile)  
amsmpo.data@usda.gov (electronic mail)

ERS: Craig Osteen  
(202) 694-5540, (202) 694-5775 (facsimile)  
costeen@ers.usda.gov (electronic mail)

ARS: Alanna Moshfegh  
(301) 504-0170, (301) 504-0376 (facsimile)  
amoshfegh@rbhnrc.usda.gov (electronic mail)

NASS: Chris Cadwallader  
(202) 690-0392, (202) 690-0675 (facsimile)  
ccadwallader@nass.usda.gov (electronic mail)

**Data and Reports.** USDA recently prepared a summary of the 2004 PDP data. This summary, along with data from previous years, is available on the Internet at <http://www.ams.usda.gov/science/pdp> or by contacting the AMS Monitoring Programs Office (MPO).

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